

REMARKS

In accordance with the foregoing, claims 1-10 are amended to improve form and without change of substance. No new matter is presented and, accordingly, approval and entry of the amended specification paragraphs and claims are respectfully requested.

ITEM 3: REJECTION OF CLAIMS 1-10 FOR ANTICIPATION UNDER 35 U.S.C. 102(e) BY WATANABE ET AL. (USP 6,853,881)

The rejection is respectfully traversed.

Watanabe et al., contrary to the representations at pages 2-3 of the Action, has no teaching of storing a positional relation between a robot and an object to be operated on by the robot and FIGS. 1 and 2 have no illustration of any such object or such a relationship between a robot and an object. By contrast, the present application illustrates in FIG. 3, for example, a robot 4 connected to a robot controller 1 having one or more robot arms for carrying a CCD camera 6 and a tool for operating on a part 10 constituting the "object of operation by the robot...". As explained at page 7 of the specification, three-dimensional models of the robot and the tool are prepared using graphical data stored in the storage device of the robot controller 1 (see, also FIGS. 1 and 2). The teaching pendant 2 (see, FIGS. 2 and 3) is moveable with the operator around the object of operation. The Action reads this function of the present invention in conjunction with the "first display means..." recitation as corresponding to FIG. 3 and element 109 of Watanabe et al. - - but element 109 constitutes only a function of "display animation image from PC on teaching pendant". There is not disclosed any concept, much less any teaching, of displaying a model of the robot on a display device moveable, with an operator, around the object, much less any "specifying means operable by the operator for specifying a direction of a present position of the operator with respect to the robot, referring to the model of the robot displayed on the display device or of the further functions performed by the "second displaying means..." and the "manual operation means..." in the concluding paragraphs of each of the independent claims.

Page 3, the third paragraph of the Action, addresses the limitation of "specifying means for the operator to specify a direction of a present position of the operator with respect to the robot, referring to the model of the robot displayed on the display device" - - and suggests that this appears in FIG. 3 of the reference. However, it is respectfully submitted that, again, the reference is devoid of any such function of "specifying a direction of a present position of the operator with respect to the robot..." (etc.).

Likewise, the Action at page 3, the fourth paragraph, alludes to “second displaying means (see, FIG. 1) for displaying a three-dimension model of the object as viewed from the specified direction of the operator... “as being taught by Watanabe et al. in FIG. 4, element 311. To the contrary, element 311 merely recites the function:

DISPLAY ANIMATION IMAGE FROM PC ON TEACHING
PENDANT.

The function is explained at col. 6, lines 50-53 to be “processings from step 307 to step 313, which are “identical to those from step 105 to step 111 in the flow chart of FIG. 3 (col. 6, lines 50-53) - - and the later are explained in Watanabe et al. at col. 4, lines 33-61 as relating to the robot operating program being started, and involving a “position and posture of the robot at the current time...[which are]...calculated on a basis of the robot operating program and the servo delay model...and the calculated robot position and posture data...” (col. 4, lines 33-45) which cause servo motors of the robot to be driven and “cause the robot to operate.” (Col. 4, lines 43-46). Further, after an animation image is displayed, a determination is made “whether or not an execution cancel instruction has been inputted (step 110)” - - and, if so, a determination is further made “whether or not the operating program has been terminated (step 111).” (Col. 4, line 56 – col. 5, line 1). These functions are then repeated if the program has not terminated. (Col. 5, line 7). These operations are then repeatedly performed....” (col. 5, lines 7-12).

Clearly, Watanabe et al. lacks any teaching of the functions attributed thereto by the Action at page 3, paragraphs 1-4.

In the last paragraph of item 3 of the action at page 3, the Examiner asserts:

manual operation means for the operator to operate the robot for designating positions for performing the operation on the object the use of manual operation has been acknowledged by Watanabe '881 "Wu et al., F3 Robot technical manual, 2002, Internet, pp. 1-18", referring to the three-dimensional model of the object displayed on the display device (see, fig. 1-5 and the entire document); a teaching modification device for modifying positions of taught points or orientations at the taught points for performing an operation on an object by a robot (see col. 2, lines 32-36, col. 6, lines 22-29 and col. 5, lines 39-49)

(Action at page 3, last paragraph of Item 3)

The Examiner's comments are not understood and clarification is requested. As noted in the foregoing, there is no discussion in Watanabe et al. of any “three-dimensional module of the

object..." being displayed and none is shown in any of FIGS. 1-5 of the reference. Watanabe et al. makes no reference to any "teaching modification device" or even to any "taught points" much less "orientations at the taught points..." - - and, as noted frequently above, no discussion of "performing an operation on an object by a robot...."

In conclusion, it submitted that the Examiner's purported reading of the limitations of the independent claims herein on Watanabe et al. '881 is without basis and the rejections of the pending claims should be withdrawn.

REQUEST FOR CLARIFICATION OF EXAMINER'S REPRESENTATION THAT THE WU ET AL., F3 ROBOT TECHNICAL MANUAL, 2002, INTERNET, PP. 1-18 (REFERRED TO AT PAGE 3, THE LAST PARAGRAPH OF ITEM 3 OF THE ACTION "HAS BEEN ACKNOWLEDGED BY WATANABE ET AL. AT '881.

The paragraph in question appears to suggest that Watanabe et al. '881 acknowledges the known use of "manual operation" for performing an operation on an object as taught by Wu et al., as though some admission has been made by Watanabe et al. '881.

Applicants request that the Examiner clarify just what representation is intended. Applicants' undersigned counsel was also counsel of record to the Applicant Watanabe et al. of the USP '881 cited by the Examiner herein. In the prosecution of the Watanabe et al. application Serial No. 10/112,866 which issued as the Watanabe et al. '881 patent, the same Examiner as herein cited Wu et al. as reference "X" in the Examiner's notice of references cited Form PTO-892 accompanying an Office Action mailed March 21, 2003. The Wu et al. reference appears on page 2 of the '881 patent as the last entry under the "other publications" prior art citations of record in the prosecution of that patent - - and notably the asterisk (*) footnote specifies: "cited by Examiner." (Emphasis added).

Clearly, it was the Examiner who cited Wu et al. - - and not the Applicants of the Watanabe et al. application/issued patent '881.

Accordingly, it is submitted to be inappropriate and very misleading to suggest that Applicants herein or the Applicants of the application issuing as Watanabe et al. '881 in any way acknowledged that "manual operation" was in some manner known, or of prior art status, as a result of any disclosure of the Wu et al. publication.

It also should be noted that the Wu et al. publication is attributed to Jennfong Wu and Chen Zhou of the School of Industrial & Systems Engineering, Georgia Institute of Technology (dated October 30, 2000) - - having no particular relationship, at least so far as known to the

undersigned counsel for Applicants, to the inventors herein or to those of the Watanabe et al. '881 patent.

Applicants request that the Examiner explain the position for the contentions made as to the significance of the Wu et al. citation from the Watanabe '881 patent or else admit to the absence of any basis for the contention advanced in the last paragraph of item 3 at page 3 of the action.

It is respectfully submitted that Watanabe '881 is no more pertinent than the admitted prior art in the "Description of Related Art" at pages 1-2 of the present application. The opening paragraph of that discussion addresses the preparation of an operation program for an industrial machine such as a robot with peripheral devices and an operation tool and in which the object of operation such as a work piece is developed using an off-line programming system but wherein: there is a considerable error between an operation path, according to the operation program, and an intended operation path. Developments in the related art for addressing that deficiency then are discussed in which method for modifying position/orientation of models of a work piece or peripheral devices prepared by the off-line programming system are based on actual positions of the work piece and peripheral devices as detected by sensors and wherein the visual sensors may be moved manually using a jog feed function of the robot on a try-end-error basis such that three points defining the position/orientation of the work piece can be captured. These prior techniques require considerable time for an operation to perform the cumbersome operations.

The present invention, on the other hand, provides a teaching device which can easily perform the teaching operation for teaching a robot positions for performing operations on an object and also for performing modifications of positions of taught points or orientations.

CONCLUSION

In conclusion, it is submitted that the foregoing has demonstrated that the pending claims patentably distinguish over Watanabe and, there being no other objections or rejections, that the application is in condition for allowance, which action is earnestly solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

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Serial No. 10/787,168


If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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By: _____


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